

**What is claimed is:**

1           1. A high-speed wireless data system for providing services for terminals of either a  
2           public wireless network or a private wireless network, the system comprising:

3           a base station for assigning an UATI to each of the terminals of the public wireless  
4           network and the private wireless network through a wireless channel to provide services of the  
5           high-speed wireless data system for each of the terminals;

6           a base station controller for performing different authentications for the terminals  
7           according to the public wireless network and the private wireless network to one of which each  
8           of the terminals belongs, assignment of an UATI to each of the terminals, management of a  
9           session for each of the terminals, and control of data transmitted to or received by each of the  
10          terminals;

11          a private authentication system including an authentication database for authenticating  
12          the terminal of the private wireless network;

13          a data location register having service information of the public wireless network  
14          terminal and information for receiving services from the private wireless network of the private  
15          wireless network terminal; and

16          a hub for intermediating data between the base station, the base station controller, and  
17          the private authentication system, the hub discriminating between private wireless network  
18          services and public wireless network services by means of UATIs received from the terminals.

1           2. The system according to claim 1, wherein the base station and the base station  
2           controller assign an IP address for performing an IP telecommunication, and process data and  
3           signaling for the assigned address.

1           3. The system according to claim 1, further comprising a data service node connected to  
2           the hub to provide data services only to the terminal of the private wireless network.

1           4. The system according to claim 1, wherein, in a case where the terminal of the private  
2           wireless network is also used in the public wireless network, the data location register stores  
3           terminal information of both the private wireless network and the public wireless network in the  
4           terminal and assigns the UATI of the private wireless network to the terminal when the terminal  
5           is located within a range of a predetermined base station.

1           5. The system according to claim 1, wherein the data location register assigns the UATI  
2           of the private network to a corresponding terminal, when the terminal is located within a  
3           predetermined base station in a predetermined time zone.

1           6. The system according to claim 1, wherein the hub discriminates between private  
2           wireless network services and public wireless network services by means of the UATIs received  
3           from the terminals in connecting a call.

1           7. The system according to claim 1, wherein, in performing call out to the public wireless  
2 network, the hub originates a call through another hub belonging to the public wireless network.

1           8. The system according to claim 1, wherein the private authentication system further has  
2 a database for authentication of the terminal of the public wireless network.

1           9. A call out method by a high-speed wireless data system, the system comprising a hub  
2 and a base station controller, the hub discriminating between public wireless network services  
3 and private wireless network services in performing routing, the base station controller  
4 performing a control operation for providing the private wireless network services when the hub  
5 requires the private wireless network services, the method comprising the steps of:

6           when a predetermined terminal demands a call out from through a base station, the hub  
7 checking an UATI and a destination address received from the terminal by the hub to determine  
8 whether private wireless network services are required or not;

9           when private wireless network services are required, the hub connecting a call to the base  
10 station and the base station controller;

11          the base station controller checking through a private authentication system whether the  
12 terminal has been authenticated or not; and

13          when the terminal has been authenticated, the base station controller directing the call to  
14 the requested destination address to perform communication.

1           10. The method according to claim 9, further comprising a step of recording a location  
2 of the terminal upon completion of the communication.

1           11. The method according to claim 9, wherein, in the step of determining whether private  
2 wireless network services are required or not, it is concluded that private wireless network  
3 services are required, when the destination address received from the terminal is an address  
4 belonging to the private wireless network.

1           12. The method according to claim 9, wherein the UATI received from the terminal which  
2 demanded the call out enables determination of whether the terminal belongs to the private  
3 wireless network or the public wireless network.

1           13. The method according to claim 9, further comprising a step of the hub performing a  
2 process for providing public wireless network services when the public wireless network  
3 services are required as a result from the checking of the UATI and the destination address of  
4 the terminal received through the base station.

1           14. The method according to claim 13, further comprising a step of the hub transmitting  
2 the UATI and the destination address of the terminal demanding the call out to another hub of  
3 the public wireless network for providing public wireless network services when the public  
4 wireless network services are required.

1           15. A call in method by a high-speed wireless data system, the system comprising a hub,  
2           a base station controller, and a data location register, the hub discriminating between public  
3           wireless network services and private wireless network services in performing routing, the base  
4           station controller performing a control operation for providing the private wireless network  
5           services when the hub requires the private wireless network services, the data location register  
6           having service information of terminals of the public wireless network and the private wireless  
7           network, the method comprising the steps of:

8           when a call connection is required to a predetermined terminal from a predetermined  
9           packet data service node, the base station controller demanding a paging to the location register;

10          the location register providing a response signal and a paging signal to a corresponding  
11          base station controller where the terminal is located;

12          the base station controller, which has received the paging signal, performing the paging  
13          to the terminal;

14          when a paging response signal is received from the terminal, authenticating the terminal  
15          by an authentication system; and

16          performing communication between the terminal and the packet data service node upon  
17          completion of the authentication.

1           16. The method according to claim 15, further comprising a step of recording a location  
2           of the terminal upon completion of the communication.

1           17. A high-speed wireless data system for providing services for terminals of either a  
2 public wireless network or a private wireless network, the system comprising:

3           a terminal capable of using either the public wireless network or the private wireless  
4 network, the terminal using an UATI of the public wireless network in originating and  
5 terminating a call by means of public wireless network services, the terminal using an UATI of  
6 the private wireless network in originating and terminating a call by means of private wireless  
7 network services;

8           a base station providing a high-speed data service through a wireless channel to the  
9 terminal, the base station assigning the UATIs of the public wireless network and the private  
10 wireless network when the terminal is located in a predetermined area, the base station assigning  
11 the UATI of the public wireless network when the terminal is located out of the predetermined  
12 area;

13          a base station controller for performing different authentications for the terminals  
14 according to the public wireless network and the private wireless network to one of which each  
15 of the terminals belongs, assignment of an UATI of either the public wireless network or the  
16 private wireless network to each of the terminals according to the information about each of the  
17 terminals, management of a session for each of the terminals, and control of data transmitted to  
18 or received by each of the terminals;

19          a private authentication system including an authentication database for authenticating  
20 the terminal of the private wireless network;

21 a data location register having service information of the public wireless network  
22 terminal and information for receiving services from the private wireless network of the private  
23 wireless network terminal; and

24 a hub for intermediating data between the base station, the base station controller, and  
25 the private authentication system, the hub discriminating between private wireless network  
26 services and public wireless network services by means of UATIs received from the terminals.

1 18. The system according to claim 17, wherein, when the terminal demands the UATI of  
2 the public wireless network, the hub connects the terminal to another hub of the public wireless  
3 network so that the UATI can be assigned to the terminal.

1 19. The system according to claim 17, wherein, when the terminal demands the UATI of  
2 the public wireless network, the base station controller assigns the UATI of the public wireless  
3 network through the hub to the terminal.

1 20. The system according to claim 17, wherein, when the terminal demands a service of  
2 the public wireless network, the hub routes the call to another hub of the public wireless  
3 network.

1 21. The system according to claim 17, further comprising a data service node connected  
2 to the hub to provide data services for terminals of the private wireless network only.

1           22. The system according to claim 17, wherein the base station and the base station  
2   controller assign an IP address for performing an IP telecommunication, and process data and  
3   signaling for the assigned address.